



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NOTES FOR STUDENTS.

IN THE *Gardener's Chronicle* for November 10 last, Mr. W. G. Smith figures a curious malformation on the pileus of *Agaricus albus*, recently collected and now in the British Museum. On the lamellar surface of the obconical pileus there are five smaller pilei, each raised on a short stipe, arising almost in the same plane, midway from stipe to margin.—C. R. B.

CZAPEK's recent paper⁶ upon the sensitiveness of the root tip to geotropic influence will be read with exceptional interest by all who have attempted to repeat, for class demonstration or otherwise, his ingenious experiments with bent glass caps. There appeared last year, in Russian, a paper by Wachtel⁷ containing a mass of experimental evidence which the writer believed to disprove Czapek's thesis entirely. Wachtel failed to obtain the curvatures described by Czapek for capped roots, and he obtained other curvatures which seemed to prove the absence of any localization of the sensitive region in such organs. Czapek has retraversed the whole disputed ground in his usual careful manner. He was able to reproduce all of Wachtel's results and shows that they were due to imperfect manipulation in the preparation of the glass caps. The walls of Wachtel's capillary tubes were too thin, thus bringing about either a narrowing of the bore at the angle, or the production of an angle too blunt for the desired purpose. Either of these conditions prevents the success of the experiment. The present article contains a translation into German of a good part of Wachtel's paper, with critical remarks, and a discussion of the difficulties of manipulation, including a very detailed account of Czapek's own methods.

There is also added a new experimental proof of the fact that only the formative region of the root tip is sensitive to the earth's gravitation. Briefly, this is as follows: Vertically placed roots are allowed to grow into right-angled caps in the usual way; then the caps are removed, the seedlings placed upon the revolving klinostat, and their behavior is observed. Within a few hours a bending becomes evident, the after effect of the stimulus received by the stationary horizontal tip while still within the cap. Various positions of the roots were tried and all point to the same conclusion. The new method is even more elegant than the older one, and in itself amounts to a proof of Darwin's hypothesis of the localization of the sensitive region.—BURTON EDWARD LIVINGSTON.

⁶CZAPEK, FRIEDRICH: Ueber den Nachweis der geotropischen Sensibilität der Wurzelspitze. *Jahrbücher für wiss. Bot.* 35: 313. 1900.

⁷WACHTEL, M.: Zur Frage über den Geotropismus der Wurzeln. *Berichte der neurussischen Gesellschaft der Naturforscher in Odessa* 23: 48. 1899.